

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application. Applicants submit this new complete claim set showing marked up claims with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing.

Listing of Claims:

1. (Canceled)
2. (Currently Amended) The method of claim ~~[[1]]~~ 6 wherein specifying the second computing device comprises specifying an element in the set: a name of the second computing device, a public address of the second computing device, a public address of a Network Address Translator (NAT) behind which sits the second computing device.
3. (Canceled)
4. (Canceled)
5. (Currently Amended) The method of claim ~~[[4]]~~ 6 wherein the first failure indication is in the set: an event associated with a timer associated with sending the first communications request addressed to the rendezvous service, reception of communications from the rendezvous service.

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6. (Currently Amended) A method for a first computing device to establish communications with a second computing device, the method comprising: The method of claim 4 further comprising:

sending a first communications request addressed to a rendezvous service, the first communications request specifying the second computing device;

waiting to receive communications from the second computing device;

waiting for a first failure indication, indicating that the second computing device failed to establish communications with the first computing device;

if the first failure indication occurs before communications from the second computing device are received, then sending communications addressed to the second computing device;

waiting for a second failure indication, indicating that the communications addressed to the second computing device failed to establish communications with the second computing device; and

if the second failure indication occurs before communications from the second computing device are received, then establishing communications with a relay service and sending a second communications request addressed to the rendezvous service, the second communications request specifying the relay service.

7. (Original) The method of claim 6 wherein the second failure indication is an event associated with a timer associated with sending the communications addressed to the second computing device.

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8. (Currently Amended) The method of claim 6 wherein sending the [[a]] second communications request addressed to the rendezvous service comprises sending an indication that the first computing device failed to establish communications with the second communications device.
9. (Original) The method of claim 6 wherein specifying the relay service comprises specifying an element in the set: a name of the relay service, a public address of the relay service.
10. (Original) The method of claim 6 wherein the second communications request further specifies an identifier of a session on the relay service.
11. (Currently Amended) The method of claim 6 embodied in computer-executable instructions on computer-readable media. ~~A computer-readable medium having instructions for performing the method of claim 1.~~
12. (Canceled)
13. (Currently Amended) The method of claim [[12]] 18 wherein specifying the first computing device comprises specifying an element in the set: a name of the first computing device, a public address of the first computing device, a public address of a Network Address Translator (NAT) behind which sits the first computing device.
14. (Canceled)
15. (Canceled)

16. (Currently Amended) The method of claim [[15]] 18 wherein the first failure indication is an event associated with a timer associated with sending the communications addressed to the first computing device.

17. (Currently Amended) The method of claim [[15]] 18 wherein sending communications addressed to the rendezvous service comprises sending an indication that the second computing device failed to establish communications with the first computing device.

18. (Currently Amended) A method for a second computing device to establish communications with a first computing device, the method comprising: ~~The method of claim 12 further comprising:~~

receiving a first communications request from a rendezvous service, the first communications request specifying the first computing device;

sending communications addressed to the first computing device;

waiting to receive communications from the first computing device;

waiting for a first failure indication, indicating that the second computing device failed to establish communications with the first computing device;

if the first failure indication occurs before communications from the first computing device are received, then sending communications addressed to the rendezvous service;

receiving a second communications request from the rendezvous service, the second communications request specifying a relay service; and

establishing communications with the relay service.

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19. (Original) The method of claim 18 wherein specifying the relay service comprises specifying an element in the set: a name of the relay service, a public address of the relay service.

20. (Original) The method of claim 18 wherein the second communications request further specifies an identifier of a session on the relay service.

21. (Currently Amended) The method of claim 18 embodied in computer-executable instructions on computer-readable media. ~~A computer-readable medium having instructions for performing the method of claim 12.~~

22. (Canceled)

23. (Currently Amended) The method of claim ~~[[22]]~~ 28 wherein the first failure indication is an event associated with a timer associated with sending the first communications addressed to the second computing device.

24. (Currently Amended) The method of claim ~~[[22]]~~ 28 wherein the second port number is a port number associated with sending encrypted communications to a firewall.

25. (Currently Amended) The method of claim ~~[[24]]~~ 28 wherein the second port number is 443 or 80.

26. (Canceled)

27. (Currently Amended) The method of claim ~~[[26]]~~ 28 wherein the second failure indication is an event associated with a timer associated with sending the second communications addressed to the second computing device.

28. (Currently Amended) A method for a first computing device to establish communications with a second computing device, the method comprising: ~~The method of claim 26 further comprising:~~

sending a first communications addressed to the second computing device, using an address and a first port number associated with the second computing device;

waiting to receive communications from the second computing device;

waiting for a first failure indication, indicating that the first communications failed to establish communications with the second computing device;

if the first failure indication occurs before communications from the second computing device are received, then sending a second communications addressed to the second computing device, using the address associated with the second computing device and a second port number.

waiting for a second failure indication, indicating that the second communications failed to establish communications with the second computing device;
and

if the second failure indication occurs before communications from the second computing device are received, then sending a first communications request to a proxy, requesting a proxy connection to the second computing device using the address and the first port number associated with the second computing device;

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waiting for a third failure indication, indicating that the first communications request to the proxy failed to establish communications with the second computing device; and

if the third failure indication occurs before communications from the second computing device are received, then sending a second communications request to the proxy, requesting a proxy connection to the second computing device using the address associated with the second computing device and the ~~the~~ second port number.

29. (Original) The method of claim 28 wherein the third failure indication is in the set: an event associated with a timer associated with sending the first communications request to the proxy; reception of communications from the proxy.

30. (Original) The method of claim 28 wherein the second port number is a port number associated with sending encrypted communications to a firewall.

31. (Currently Amended) The method of claim ~~[[30]]~~ 28 wherein the second port number is 443 ~~or~~ 80.

32. (Currently Amended) The method of claim 28 embodied in computer-executable instructions on computer-readable media. ~~A computer-readable medium having instructions for performing the method of claim 22.~~

33. (Canceled)

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34. (Currently Amended) The method of claim ~~[[33]]~~ 35 wherein the first failure indication is an event associated with a timer associated with sending the first communications addressed to the second computing device.

35. (Currently Amended) A method for a first computing device to establish communications with a second computing device, the method comprising: ~~The method of claim 33 further comprising:~~

sending a first communications addressed to the second computing device, using an address and a first port number associated with the second computing device;

waiting to receive communications from the second computing device;

waiting for a first failure indication, indicating that the first communications failed to establish communications with the second computing device;

if the first failure indication occurs before communications from the second computing device are received, then sending a first communications request to a proxy, requesting a proxy connection to the second computing device using the address and the first port number associated with the second computing device;

waiting for a second failure indication, indicating that the first communications request to the proxy failed to establish communications with the second computing device; and

if the second failure indication occurs before communications from the second computing device are received, then sending a second communications addressed to the second computing device, using the address associated with the second computing device and the ~~the~~ [[a]] second port number.

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36. (Original) The method of claim 35 wherein the second failure indication is in the set: an event associated with a timer associated with sending the first communications request to the proxy; reception of communications from the proxy.

37. (Original) The method of claim 35 wherein the second port number is a port number associated with sending encrypted communications to a firewall.

38. (Currently Amended) The method of claim ~~[[37]]~~ 35 wherein the first ~~second~~ port number is 443 or 80.

39. (Currently Amended) The method of claim 35 further comprising:
waiting for a third failure indication, indicating that the second communications failed to establish communications with the second computing device; and
if the third failure indication occurs before communications from the second computing device are received, then sending a second communications request to the proxy, requesting a proxy connection to the second computing device using the address associated with the second computing device and ~~[[a]]~~ the second port number.

40. (Original) The method of claim 39 wherein the third failure indication is an event associated with a timer associated with sending the second communications addressed to the second computing device.

41. (Original) The method of claim 39 wherein the second port number is a port number associated with sending encrypted communications to a firewall.

42. (Currently Amended) The method of claim ~~[[41]]~~ 35 wherein the second port number is 443 or 80.

43. (Currently Amended) The method of claim 15 embodied in computer-executable instructions on computer-readable media. ~~A computer-readable medium having instructions for performing the method of claim 33.~~

44. (New) A method for a first computing device to establish communications with a second computing device, the method comprising:

 sending a first invitation for the second computing device to a rendezvous service;

 receiving a failure message from the rendezvous service indicating a failed attempt to establish communications by the second computing device with the first computing device, the failed attempt responsive to the first invitation; and

 sending a second invitation for the second computing device to the second computing device.

45. (New) The method of claim 44 further comprising accepting an attempt to establish communications by the second computing device.

46. (New) The method of claim 44 wherein the second invitation is sent to the second computing device using an address, the address including a port number wherein the port number is 443 or 80.

47. (New) The method of claim 44 wherein the second computing device is behind a communications blocker.

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48. (New) The method of claim 44 further comprising:
 sending a third invitation for the second computing device to a rendezvous service, the third invitation specifying a relay service; and
 accepting an attempt to establish communications by the second computing device via the relay service.
49. (New) The method of claim 48 wherein the first computing device is behind a communications blocker and the second computing device is behind a communications blocker.
50. (New) The method of claim 48 wherein the communications passes through a port 80 or a port 443.
51. (New) The method of claim 48 embodied as computer-executable instructions on computer-readable media.
52. (New) The method of claim 48 wherein the communications passes through at least a portion of the public Internet.